

NOVEL COMPOSITIONS FOR USE AS ELECTRODE MATERIALS
AND FOR HYDROGEN PRODUCTION

ABSTRACT

5 This invention provides new compositions, methods for making
these compositions, and methods of using the compositions in a variety of
energy-related applications. These compositions are useful as electrode materials
in devices such as batteries, capacitors, fuel cells and similar devices as also in
the direct production of hydrogen and oxygen gas. The new compositions of the
10 present invention comprise: (A) one or more of the transition metal elements;
optionally (B) aluminum; optionally (C) one or more of the group 1A alkali metal
elements; (D) one or more elements and/or compounds having high mobility
values for electrons; and (E) a source of ionizing radiation. Thus, components A,
D and E are required ingredients of the present invention, and components B and
15 C are both optional. Components B and C may be used independently alone,
together, or not at all.

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